Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem–2) MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS) Subject Code:MPH-201 M.Code:74961 Date of Examination : 05-06-2023

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

- 1.
- Attempt any FIVE questions out of SIX questions. Each question carry FIFTEEN marks. 2.
- 1.
- a) Enumerate the biological process involved in drug targeting to tumor tissues.
 - b) What is Brain specific delivery
- Explain the methods of preparation and evaluation of : 2.
 - a) Liposomes
 - b) Nanoparticles

Give preparation, evaluation and application of : 3.

- a) Niosomes
- b) Monoclonal Antibodies
- Highlight the preparation and evaluation of Pulmonary delivery system 4.

5. Write short note on :

- a) Gene expression systems
- b) Ex vivo gene therapy
- c) Cancer
- 6. Highlight the techniques to prepare and evaluate liposomal gene delivery system.

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Total No. of Questions : 06

Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem.-2) ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS Subject Code:MPH-202

M.Code: 74962 Date of Examination : 30-05-23

Time: 3 Hrs.

INSTRUCTIONS TO CANDIDATES :

Max. Marks: 75

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M-2023

- 1.
- Attempt any FIVE questions out of SIX questions. Each question carries FIFTEEN marks. 2.
- a) Discuss the factors influencing dissolution of drugs from dosage forms. Enumerate 1. the approaches employed for enhancing dissolution of drugs from dosage forms containing lipophilic drugs.
 - b) Briefly explain the Noyes-Whitney equation and its role in dissolution.
- a) What do you mean by biosimilars? Briefly explain biosimilars and their general 2.
 - b) Discuss in detail about pharmaceutical factors that influence oral absorption of drugs with examples.
- a) Write a note on relation between tight junctions and drug absorption. 3.
 - b) Discuss in detail about pharmacodynamics of monoclonal antibodies.
- a) Differentiate between one and two-compartment open pharmacokinetic models. 4. Discuss the pharmacokinetics of a drug administered by IV infusion following one compartment open model.
 - b) Explain MM kinetics and its clinical significance. How is Kmax and Vmax calculated when MM kinetics is operative.
- a) A dose of 300 mg was given to a patient by IV bolus injection. After 30 days the serum drug concentration was, found to be 75 mg/ml. Calculate K and T1/2 of the 5. drag assuming first order kinetics.
 - b) Discuss the IVIVC methods and their requirements.
 - a) Give an account of P-glycoprotein pump mediated drug efflux and its inhibition with reference to drug absorption from GIT.
 - b) Discuss pH partition hypothesis with respect to absorption of drugs administered
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 ⁵. Explain the application of a) Artificial Intelligence b) Computational Fluid dynamics 6. a) Explain the utility of computers in clinical development. b) Explain computer simulations in whole organism. 				· · · · · · · · · · · · · · · · · · ·	NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.	21 M-2 0 2 2
Roll No. Total No. of Questions : 06 Total No. of Pages : 02 M.Pharmacy (Pharmaceutics) (Sem-2) M.Pharmacy (Pharmaceutics) (Sem-2) COMPUTER AIDED DRUG DELIVERY SYSTEM Subject Code : MPH-203 M.Code : 74963 M.Code : 74963 Time : 3 Hrs. Date of Examination : 02-06-2023 INSTRUCTIONS TO CANDIDATES : Max. Marks: 75 1. Attempt any FIVE questions out of SIX questions. 1. Write a short note on :	a) Descriptive verses mechanistic modeling in statistical modeling.b) QTPP	c) Risk Assessment 2. Explain modeling techniques for	 a) Intestinal permeation b) P-gp c) ASBT d) BCRP 	 a) Enumerate how microemulsion drug carrier is prepared using computers. (8) b) Explain the ethics of computing in pharmaceutical research. (7) 4. Write short note on : (5×3) a) Parameter Sensitivity Analysis b) Fed vs. Fasted state 	c) IVIVC 1 1-74963	DAZT-frict

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al No. of Questions : 06

Total No. of Pages :02

ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS M.Pharmacy (Pharmaceutics) (Sem.-2) Date of Examination : 06-07-22 Subject Code :MPH-202 M.Code :74962

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES ;

- Attempt any FIVE questions out of SIX questions.
 Each question carries FIFTEEN marks.
- A) Discuss different processes of drug absorption from g.i.t. with suitable examples and ...
- B) What is meant by "dissolution rate limited absorption"? Briefly discuss the pharmaceutical factors that need critical consideration for such drugs.
 - A) Compare drug absorption from tablet with that from solution of drug. What is relative bioavailability? ч.
- B) Explain BCS Classification of drugs. Give an account of the approach used
- A) Briefly discuss the compendial dissolution testing methods. Explain the importance of ы.

B) Discuss the IVIVC methods and their requirements.

A) What is bioavailability? Discuss the methods used for assessing bioavailability of 4.

B) Define "biosimilars" with suitable examples. Give an account of their compendial

Write short notes on : S.

A) Tight junctions and their importance.

- B) Drug interactions.
- C) Pharmacokinetic-Pharmacodynamic correlation.

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Write briefly about : و.

A) Non linear pharmacokinetics and its causes.

- B) Complete cross over design.
- C) Relative and absolute bioavailability.

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Total No. of Questions : 06 Roll No.

Total No. of Pages :02

ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS M.Pharmacy (Pharmaceutics) (Sem.–2) Subject Code :MPH-202 M.Code :74962

Date of Examination : 06-07-22

Time: 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt any FIVE questions out of SIX questions. Each question carries FIFTEEN marks. 5.
- A) Discuss different processes of drug absorption from g.i.t. with suitable examples and lumitations associate with each of them.
- B) What is meant by "dissolution rate limited absorption"? Briefly discuss the pharmaceutical factors that need critical consideration for such drugs.
- A) Compare drug absorption from tablet with that from solution of drug. What is relative bioavailability? ,
- B) Explain BCS Classification of drugs. Give an account of the approach used forenhancing drug bioavailability.
- A) Briefly discuss the compendial dissolution testing methods. Explain the importance of "sink condition" 3.
- B) Discuss the IVIVC methods and their requirements.
- A) What is bioavailability? Discuss the methods used for assessing bioavailability of drugs. 4
- B) Define "biosimilars" with suitable examples. Give an account of their compendial requirements.
- Write short notes on : 5.
- A) Tight junctions and their importance.
- B) Drug interactions.
- C) Pharmacokinetic-Pharmacodynamic correlation.
- 1 M 74962

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Write briefly about : 9

A) Non linear pharmacokinetics and its causes.

B) Complete cross over design.

C) Relative and absolute bioavailability.

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M.Pharmacy (Pharmaceutics) (Sem.–2) COSMETIC & COSMECEUTICALS Subject Code : MPH-204 M.Code: 74964 Date of Examination : 12-07-22

Total No. of Pages : 01

Max. Marks: 75

Time : 3 Hrs.

3.

INSTRUCTIONS TO CANDIDATES :

Attempt any FIVE questions out of SIX questions. 1.

- Each question carries FIFTEEN marks. 2.
- A) Define a cosmetic product and give an account of the label requirements according to 1. Indian regulations for cosmetics.
 - B) Give an account of the penalties levied for manufacture and sale of spurious and misbranded cosmetics in India
- A) Enumerate nail care cosmetic products. Give an overview of the standards to be 2. maintained for these products.
 - B) Explain the structure of skin and comment on the formulation and action of anti-acne cosmetic products.
 - A) Write a note on emollients used in cosmetics giving suitable examples.
 - B) Discuss the formulation of a shampoo and justify the inclusion of various additives in this formulation.
- A) Discuss the key differences in the ingredients used for cold cream and vanishing 4. cream.
 - B) Comment on the causes of bleeding gums and oral cavities. Discuss the cosmeceuticals used for preventing them.
- What are herbal skin care and hair care agents? Give suitable examples and explain the challenges encountered in formulating herbal cosmeceuticals. 5.

Write notes on (any three) : 6.

A) Herbal emollients

B) Soaps

- C) Formulations for preventing mouth odour.
- D) Sun screen agents

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Total No. of Questions : 06

Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem.–2) COSMETIC & COSMECEUTICALS

Subject Code : MPH-204

M.Code:74964 Date of Examination : 12-07-22

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES

1.

- Attempt any FIVE questions out of SIX questions. Each question carries FIFTEEN marks. 2.
- A) Define a cosmetic product and give an account of the label requirements according to 1.
 - B) Give an account of the penalties levied for manufacture and sale of spurious and
- A) Enumerate nail care cosmetic products. Give an overview of the standards to be 2.
 - B) Explain the structure of skin and comment on the formulation and action of anti-acne
- A) Write a note on emollients used in cosmetics giving suitable examples. 3.
 - B) Discuss the formulation of a shampoo and justify the inclusion of various additives in
- A) Discuss the key differences in the ingredients used for cold cream and vanishing 4.
 - B) Comment on the causes of bleeding gums and oral cavities. Discuss the cosmeceuticals used for preventing them.
- What are herbal skin care and hair care agents? Give suitable examples and explain the 5. challenges encountered in formulating herbal cosmeceuticals.

6. Write notes on (any three) :

- A) Herbal emollients
- B) Soaps
- C) Formulations for preventing mouth odour.
- D) Sun screen agents

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Roll No. Total No. of Pages : 01 Total No. of Questions : 06 M.Pharmacy. (Pharmacology/Pharmaceutical Analysis) CLINICAL RESEARCH & PHARMACOVIGILANCE (Sem.-2) Subject Code : MPL-204T M.Code: 74946 Date of Examination : 12-07-22 Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

Attempt any FIVE questions out of SIX questions. 1.

- Each question carries FIFTEEN marks. 2.
- A) What is meant by informed consent? Discuss the ethical issues concerning informed 1.
 - B) Give an account of the storage provisions to be provided in a pharmaceutical plant for raw materials and finished products.
- A) Enumerate the different types of personnel required for a clinical trial. Mention their 2.
 - B) Enumerate the different study designs for clinical trials. Describe any one.
- A) Discuss the protocol for conducting a clinical trial. How is clinical study report 3.
 - B) Differentiate between side effect and adverse drug reaction. How is severity and seriousness of ADRs assessed and recorded?
- What are pharmacovigilance studies? Enumerate the approaches used for these studies. 4. Give a detailed account of WHO regulations for this purpose.
- Discuss the regulatory guidelines for ADRs reporting in India. Outline the procedure 5. used for this purpose.
- 6. Write notes on (any three) :
 - A) Vaccine safety surveillance
 - B) Pharmacoepidemiology
 - C) Statistical methods for evaluating medication safety data.
 - D) Non RCT and its significance.

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Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem.-2) MOLECULAR PHARMACEUTICS (NANO TECH AND TARGETED DDS) Subject Code : MPH-201 M.Code: 74961 Date of Examination : 04-07-22

Time : 3 Hrs.

Max. Marks: 75

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June 2022

INSTRUCTIONS TO CANDIDATES :

- Attempt any FIVE questions out of SIX questions. 1.
- Each question carry FIFTEEN marks. 2.
- a) Discuss the properties of a good polymer conjugate. 1.
 - b) Discuss the different strategies for enhanced CNS drug delivery.
- a) What are the obstacles in gene delivery? 2.
 - b) Differentiate between dual targeting and combination targeting.
- a) Explain the mechanism of liposome formation. 3.
 - b) Explain rigidization of fluid phase vesicles with cholesterol.
- a) Discuss the physicochemical aspects of non-ionic surfactant vesicles. 4.
 - b) Explain reverse phase evaporation.
- 5. a) Discuss components of an aerosols.
 - b) Explain any one method of production of aerosols.
- 6. a) How characterization of nanoparticles can be carried out?
 - b) Discuss the different polymers used for gene delivery.

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Total No. of Questions : 06

Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem.-2) COMPUTER AIDED DRUG DELIVERY SYSTEM Subject Code : MPH-203 M.Code: 74963 Date of Examination : 08-07-22

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES

- 1. Each question carries FIFTEEN marks.
- Attempt any FIVE questions out of SIX questions. 2.

1.	a.	Summarize the history of commu			
1.	b.	Explain regulatory and induction	t.(8)		
2	я	Explain BCRP and OCT T	(7)		
2.	ц. Ь	Give the modeling tool is an apporters.	(8)		
	U.	What is optimination of the second solubility.	(7)		
3.	a.	what is optimization? Explain optimal design with atleast one example.	(8)		
	b.	Explain the use of optimization designs in the preparation of microemulsion.	(7)		
4.	Wr	ite short note on :			
	a.	In vitro dissolution kinetic models.	(5)		
	b.	Fed vs Fasted state	(5)		
	c.	Virtual trial	(5)		
5.	Wri	te short note on :			
	a.	Artificial Intelligence	(8)		
	h	Robotics	(7)		
		Highlight the computer simulations in isolated tissues.	(8)		
6.	a.	fighting the transfer of IVIVC in availing biowaivers from pharmacokinetics. (7)			
	b.	Explain the application of tyry of in availing one way			

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June 2022

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Total No. of Questions : 06

Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem.-2) COSMETIC & COSMECEUTICALS Subject Code:MPH-204 M.Code: 74964 Date of Examination : 12-07-22

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :

- Attempt any FIVE questions out of SIX questions. Each question carries FIFTEEN marks. 1.
- 2.

1.

3.

- A) Define a cosmetic product and give an account of the label requirements according to Indian regulations for cosmetics,
 - B) Give an account of the penalties levied for manufacture and sale of spurious and misbranded cosmetics in India.
- A) Enumerate nail care cosmetic products. Give an overview of the standards to be 2. maintained for these products.
 - B) Explain the structure of skin and comment on the formulation and action of anti-acne cosmetic products.
 - A) Write a note on emollients used in cosmetics giving suitable examples.
 - B) Discuss the formulation of a shampoo and justify the inclusion of various additives in this formulation.
- A) Discuss the key differences in the ingredients used for cold cream and vanishing 4.
 - B) Comment on the causes of bleeding gums and oral cavities. Discuss the cosmeceuticals used for preventing them.

What are herbal skin care and hair care agents? Give suitable examples and explain the

- challenges encountered in formulating herbal cosmeceuticals. 5. Write notes on (any three) :
- 6.
 - A) Herbal emollients

 - C) Formulations for preventing mouth odour.

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ROII NO. Total No. of Questions : 06

Total No. of Pages : 01

M.Pharmacy (Pharmaceutics) (Sem -2) COSMETIC & COSMECEUTICALS

Subject Code : MPH-204

M.Code : 74964

Date of Examination : 12-07-22

Time : 3 Hrs.

Max. Marks: 75

INSTRUCTIONS TO CANDIDATES

Attempt any FIVE questions out of SIX questions.

- Each question carries FIFTEEN marks. 1.
- 2.

3.

- A) Define a cosmetic product and give an account of the label requirements according to 1. Indian regulations for cosmetics.
 - B) Give an account of the penalties levied for manufacture and sale of spurious and misbranded cosmetics in India.
- A) Enumerate nail care cosmetic products. Give an overview of the standards to be 2. maintained for these products.
 - B) Explain the structure of skin and comment on the formulation and action of anti-acne cosmetic products.
 - A) Write a note on emollients used in cosmetics giving suitable examples.
 - B) Discuss the formulation of a shampoo and justify the inclusion of various additives in this formulation.
 - A) Discuss the key differences in the ingredients used for cold cream and vanishing
- 4. cream.
 - B) Comment on the causes of bleeding gums and oral cavities. Discuss the cosmeceuticals used for preventing them.
- What are herbal skin care and hair care agents? Give suitable examples and explain the challenges encountered in formulating herbal cosmeceuticals. 5.

Write notes on (any three) : 6.

A) Herbal emollients

- B) Soaps
- C) Formulations for preventing mouth odour.

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Roll No. Total No. of Questions : 06	: 01
COMPUTER AIDED DRUG DELIVERY SYSTEM Subject Code : MPH-203 M.Code : 74963 Date of Examination : 08-07-22	
Max. Marks: 75 I _{NS} TRUCTIONS TO CANDIDATES : 1. Attempt any FIVE questions out of SIX questions. 2. Each question carries FIFTEEN marks.	15
 a. Summarize the history of computers in pharmaceutical research and development. b. Explain regulatory and industrial view on QbD. 2. a. Explain BCRP and OCT Transnortere 	it.(8) (7)
 b. Give the modeling techniques for drug absorption and solubility. 3. a. What is optimization? Explain optimal design with atleast one example. 	(8) (2) (8)
 b. Explain the use of optimization designs in the preparation of microemulsion. 4. Write short note on : 	(7)
a. In vitro dissolution kinetic models.	(5)
b. Fed by Fasted state c. Virtual trial	(5)
5. Write short note on :	(5)
a. Artificial Intelligence	(8)
b. Robotics ((2)
6. a. Highlight the computer simulations in isolated tissues.	(8)
b. Explain the application of IVIVC in availing biowaivers from pharmacokinetics. ((7)
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Roll No Total N Time :	 o. of Questions: 06 M.Pharmacy (Pharmaceutics) (2017 Batch) (Sem2) Subject Code : MPH-203 3 Hrs. 	
INSTRU 1 Att 2 Ea	CTIONS TO CANDIDATES : tempt any FIVE questions out of SIX questions. ich question carries FIFTEEN marks. Max. Marks: 75	
1. a	 Write the benefits of pharmaceutical automation in packaging. Explain the computational modelling concept with respect to data about the solubility. 	
2. a	 Differentiate Descriptive and Mechanistic modelling. Write about efflux transporters with a transporters with a transporter. 	nd 5 5
3. (b) Describe the applications of computational fluid dynamics in pharmacy. Outline the quality by design concerned in	7 8
4. 8	 a) Discuss the role of computers in pharmaceutical emulsions development 	with 15
1	b) "Why and how the innovative use of computer in R & D can be legal protection." Comment.	ted". 8
5. (Comment on challenges and its future perspective.	ticals. 15
0	Enumerate the history of computers in pharmaceutical research & development.	15

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Roll No. of Questions : 06	11
ADVANCED BIOPHARMaceutics) (2017 Batch) (Sem2) ADVANCED BIOPHARMACEUTICS & PHARMACOKINETICS Subject Code : MPH-2021	
M.Code : 74962 Max. Marks: 75 Max. Marks: 75	10
INSTRUCTIONS TO CANDIDATES : INSTRUMPT any FIVE questions out of SIX questions. 1. Each question carries FIFTEEN marks. 2.	
Discuss the various factors affecting drug absorption in vivo. Also elaborate upon 1. various active-mechanisms for drug absorption.	n the (15)
Distinguish between tablets and capsules as a dosage form. Discuss the major fat associated for the drug release from each dosage form.	actors (15)
\mathcal{D} is the compendia method of classification of dissolution with respect to USP.	(15)
4. a) Enumerate one compartment model with respect to LV infusion.	(10)
b) Discuss with example cytochrome P450 based drug interaction.	(5)
5. a) Write a note on biosimilar drug products.	(5)
b) What do you understand by bioequivalence studies?	(10)
6. Write a note on following :	
a) Monoclonal antibodies	(5)
b) Vaccines	(2)
c) Any commercialized drug products from biotechnology source.	(2
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Total No. of Pages : 01

Max. Marks: 75

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M.Pharmacy (Pharmaceutics) (2017 Batch) MOLECULAR PHARMACEUTICS (Sem.-2)(NANO TECH AND TARGETED DDS) Subject Code:MPH-201 M.Code: 74961

Time : 3 Hrs.

INSTRUCTIONS TO CANDIDATES :

- 1.
- Attempt any FIVE questions out of SIX questions. Each question carry FIFTEEN marks. 2.
- Ql. (a) What are Aptamers? Give their applications. (b) What is EPR?
- (c) Enumerate six diseases heated by gene therapy. 3 (d) Explain methods used for filling of aerosols. 3 (e) Define Aquasomes. 3 O2. (a) Discuss various viral carrier systems used in gene delivery. 10 5 (b) Define somatic gene therapy. Discuss different types of somatic gene therapy. Q3. (a) Discuss methods facilitating nasal absorption. 7 8 (b) Explain quality control tests of aerosol formulations. 10
- Q4. (a) Discuss various polymers used in the preparation of nanoparticles.
- (b) Discuss the sterility aspects of liposomes. Q5. (a) Explain the importance of cellular and lymphatic uptake in targeted drug delivery
- systems. 5
 - (b) Discuss the factors affecting drug transport across blood brain barrier.
- Q6. (a) What are microspheres? Explain in detail methods of preparation and applications in (b) Discuss various components and their role in formation of niosomes. drug delivery systems.

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May-2019

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R0	ll N tal I	o. Total No. of Pa	ages: 01
M	OLI ne:	M.Pharmacy (Pharmaceutics) (2017 Batch) (Sem. – 2) ECULAR PHARMACEUTICS (NANO TECH & TARGETE) M Code: 74961 Subject Code: MPH-201 Paper ID: [74961] 3 Hrs. Max, M	D DDS) Narks: 75
IN ^S 1. 2.	TRI This Eac	JCTIONS TO CANDIDATES: s paper consists of SIX questions. Attempt any FIVE questions. th question carries FIFTEEN marks.	
1.	a)	Enumerate the principles of targeting drugs to tumors. Briefly discuss th approach for this purpose.	e 'bacterial' (7.5)
	b)	What are nano particles? Mention the limitations of using nano particles drugs to diseased tissues.	for targeting (7.5)
2.	a)	Distinguish micro capsules from micro spheres. Give an account of the poly interaction method used for preparing microspheres.	(7.5)
	b)	Give a brief account of Electrosomes and their applications.	(7.5)
3.	a)	What are aerosols and their advantages? Enumerate the different types of for drug delivery and mention their ingredients.	aerosols used (7.5)
	b)	Briefly describe the preparation of monoclonal antibodies.	(7.5)
4.	a)	Discuss gene therapy giving suitable example for cancer treatment.	(7.5)
	b)	Classify the products that can be used for intra nasal drug delivery. the application of intra nasal drug delivery for brain targeting.	Briefly discuss (7.5)
5.	W	rite short notes on:	(5x3=15)
	a)	Viral gene transfer	
	b)	Niososmes for drug targeting	
	c)	Aptamers	(5-2-15)
6	. Cı	ritically comment on:	(5x3 - 15)
	a)	Evaluation of liposomes	
	b)	Evaluation of metered dose aerosols	
	c)	Toxicity of nano particles	
			Page 1
	M-74	961	-

Roll N Total h	o. 01 Total No. 0 Jo. of Questions : 06 M.Pharmacy (Pharmaceutics) (2017 Batch) (Sem. – 2	Pages : 01
time :	COSMETIC & COSMECEUTICS M Code: 74964 Subject Code: MPH-204 Paper ID: [74964] Max. N	arks : 75
INSTRU Atte 2. Eac	CTIONS TO CANDIDATES; impt any FIVE questions out of total SIX. h question carries FIFTEEN marks.	
1. a) D	efine Cosmetics.	(2)
D (9	ifferentiate between misbranded and spurious cosmetics.	(4)
c) D	iscuss the regulatory requirements regarding import of cosmetics in Indi	. (6)
2. a) D	raw a neat labelled diagram of Skin depicting route of penetration also.	(5)
p) D	iscuss the structural changes take place in skin after wrinkles.	(5)
C)	iscuss the care of face.	(5)
3 Discu	ss the role of surfactants in cosmaccuticals.	(15)
4 a) Di	scuss the formulation components of shampoo.	(1)
i (q	seuss SPF? Classify sunscreens with examples.	(8)
5. Discus	s COSMOS guidelines with respect to manufacturing of cosmetics.	(15)
6. Discus	s the challenges while formulating cosmetics.	(15)

AMRIL 2018 Page 1 of 1

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Roll No. Total No. of Questions : 06 M.Pharmacy (Pharmaceutics) (2017 Batch) COMPUTER AIDED DRUG DELIVERY M Code: 74963	Total No. of Pages : 01 (Sem. – 2) SYSTEM
Paper ID: 174000	
Time : 3 Hrs. [74963]	Max. Marks : 75
INSTRUCTION TO CANDIDATES: 1. Attempt any FIVE questions from total SIX. 2. All questions carry equal, FIFTEEN marks.	1
1. a) Detail the history of computers in pharmaceutical research ar	nd development.
b) Provide the ICHQ8 guidelines.	(8,7)
2. a) What are transporters? Give its significance.	
b) Explain P-gp and hPEPT1 Transporters.	(8, 7)
a) What is optimization? Explain factorial design with at least of	one example.
b) Explain the use of optimization designs in the preparation of	emulsion.
 a) What is model construction? Explain parameter sensitivity a b) Explain computer simulation of in vitro data to pharmacokir 	nalysis. netic predictions (8.7)
Write short note on:	
). White best	
a) Kodoucs	(5x3=15)
b) Artificial Intelligence	
c) Computational Fluid dynamos	(8, 7)
6. a) Enumerate utility of computers in fluenced the use of comp	uter.
b) How biowaivers considerations influence	199 3 - 1997
	10011 - 2018
	Page 1 of